***Grade 3 Cluster-Level Emphases***

m = major clusters; a/s = additional and supporting clusters

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| **Operations and Algebraic Thinking**  [m]: Represent and solve problems involving multiplication and division.  [m]: Understand properties of multiplication and the relationship between multiplication and division.  [m]: Multiply and divide within 100.  [m]: Solve problems involving the four operations, and identify and explain patterns in arithmetic.  **Number and Operations in Base Ten**  [a/s]: Use place value understanding and properties of arithmetic to perform multi-digit arithmetic. (DOK 1)  **Number and Operations—Fractions**  [m]: Develop understanding of fractions as numbers. (DOK 1, 2)  **Measurement and Data**  [m]: Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects. (DOK 1, 2)  [a/s]: Represent and interpret data. (DOK 2, 3)  [m]: Geometric measurement: understand concepts of area and relate area to multiplication and to addition. (DOK 1, 2)  [a/s]: Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures. (DOK 1)  **Geometry**  [a/s]: Reason with shapes and their attributes. (DOK 1, 2) |

***Grade 4 Cluster-Level Emphases***

m = major clusters; a/s = additional and supporting clusters

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| **Operations and Algebraic Thinking**  [m] Use the four operations with whole numbers to solve problems.  [a/s] Gain familiarity with factors and multiples.  [a/s] Generate and analyze patterns.  **Number and Operations in Base Ten**  [m] Generalize place value understanding for multi-digit whole numbers.  [m] Use place value understanding and properties of operations to perform multi-digit arithmetic.  **Number and Operations—Fractions**  [m] Extend understanding of fraction equivalence and ordering.  [m] Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.  [m] Understand decimal notation for fractions, and compare decimal fractions.  **Measurement and Data**  [a/s] Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.  [a/s] Represent and interpret data.  [a/s] Geometric measurement: understand concepts of angle and measure angles.  **Geometry**  [a/s] Draw and identify lines and angles, and classify shapes by properties of their lines and angles. |

***Grade 5 Cluster-Level Emphases***

m = major clusters; a/s = additional and supporting clusters

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| **Operations and Algebraic Thinking**  [a/s] Write and interpret numerical expressions.  [a/s] Analyze patterns and relationships.  **Number and Operations in Base Ten**  [m] Understand the place value system.  [m] Perform operations with multi-digit whole numbers and with decimals to hundredths.  **Number and Operations— Fractions**  [m] Use equivalent fractions as a strategy to add and subtract fractions.  [m] Apply and extend previous understandings of multiplication and division to multiply and divide fractions.  **Measurement and Data**  [a/s] Convert like measurement units within a given measurement system.  [a/s] Represent and interpret data.  [m] Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.  **Geometry**  [a/s] Graph points on the coordinate plane to solve real-world and mathematical problems.  [a/s] Classify two-dimensional figures into categories based on their properties. |